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PROCEEDINGS

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GENERA AND FAMILIES OF THE CHIMÆROIDS.

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This note is an abstract from the Bulletin of the Museum of Comparative Zoölogy, preliminary to the more extended discussion now in press, with illustrations of the form, anatomy and kindred, of a specimen purchased, March, 1900, in Japan by Dr. Alex. Agassiz from a dealer who pronounced it specifically identical with *Harriotta pacifica* Mits., having, as understood, had an identification by Professor Mitsukuri or a comparison with the type. On its arrival it was recognized at once to be a representative of a new genus and not to belong to *Harriotta*. Whether it was of the mentioned species could not have been determined from the original description and figure. Externally the individual here serving as the type of the new genus *Rhinochimæra* bears some resemblance to the types of *Harriotta raleighana* G. B., but on closer examination it is seen to possess radical differences in structure. The teeth of *Rhinochimæra* are of a much less differentiated form than those of any other of the recent genera of the group; that is their later stages are more like the earlier, and presumably more like the teeth of primitive chimæroids; they approach those of the extinct myriacanths and the very early conditions of the teeth of other living chimæroids, *Chimæra*, *Cal-*

lorhynchus and *Harriotta*. In advanced stages the teeth of *Harriotta* differ from those of *Rhinochimæra* in possessing several series of tritors which in superficial aspect resemble, in shapes and arrangement, crowns of certain placodont teeth. On the teeth of *Rhinochimæra* there are no tritors; the teeth of the very young of the other living genera are similar; this no doubt is a mutual resemblance to those of a common ancestor, an index to derivation. Not to mention further particulars, the forms of body being much alike, the new genus, established upon *Harriotta pacifica* Mits., may be distinguished from *Harriotta* thus:

Teeth without tritors, like the horny covers on jaws of reptiles and birds.
Rhinochimæra.

Teeth with several series of tritors, like groups of placodont molars.
Harriotta.

On both of them the rostrum is very long and pointed; it is the more depressed, broadened and weak on *Harriotta*; it is the more compressed and strong on *Rhinochimæra*. Their family characters are such as not to permit of separating them from one another. Yet they differ so from the other genera as to make it necessary to establish, under the name of *Rhinochimæridæ*, a distinct family for their inclusion. The shape of the body is much the same in all the living members of the group; for this reason the tendency is to throw them together, though the great differences between *Chimæra* and *Callorhynchus* have not passed unnoticed. These differences are really too great to admit of retention in a single family; they necessitate separation into two, which increases the number of families of recent chimæroids to three. Without extending this article further than is needed to indicate the conclusions, and not to anticipate more of general studies than of those of the genera, a sufficient array of the distinguishing characters may be indicated as below:

Proboscis absent;
Lateral canal system sulcate;
Notochord with ringlike segments;
Hemispheres fused with olfactory and distant from optic lobes.
Chimæridæ.

Proboscis short, ending in a leaflike appendage;
Lateral canal system tubular;
Notochord without rings;
Hemispheres far from olfactory and nearer optic lobes.
Callorhynchidæ.

Proboscis long, pointed;
Lateral canal system subtubular;
Notochord with rings;
Hemispheres distant from both olfactory and optic lobes.
Rhinochimæridæ.

The frontal holder is present on the males of *Harriotta* and of *Rhinochimæra*, as on those of *Chimæra* and of *Callorhynchus*, the published statements to the contrary notwithstanding; and it may be added that this holder is only acquired by the young male somewhat late in his existence, about the time he becomes sexually mature and the ventral claspers have approached functional maturity, the advent of the holder coinciding nearly with the beginning of its period of utility.

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